



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,949	05/04/2005	Shinsuke Sugata	KAS.069	9635

48234 7590 04/21/2006

MEREK, BLACKMON & VOORHEES, LLC  
673 S. WASHINGTON ST  
ALEXANDRIA, VA 22314

EXAMINER
----------

TALBOT, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

3722

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/533,949

Applicant(s)

SUGATA ET AL.

Examiner

Michael W. Talbot

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05/04/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement filed 04 May 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### *Specification*

2. The disclosure is objected to because of the following informalities:

Refer to page 11, line 6, the text "grained" in the phrase "grained by the flowing energy" should be changed to --gained-- so as to read --gained by the flowing energy--.

Appropriate correction is required.

### *Claim Objections*

3. Claim 5 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and/or can not depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims not been further treated on the merits.

4. Claim 3 is objected to because of the following informalities:

Refer to claim 3, line 3, the text "from" in the phrase "inserted from the openings at the rear ends" should be changed to --into-- so as to read --inserted into the openings at the rear ends--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

Art Unit: 3722

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/37439 in view of Inoue '212. WO 99/37439 shows in Figures 1-4,6,12 and 13 a multi-shaft spindle head (103) comprising a plurality of spindles (111) having tools (119) at the tips thereof being disposed in a same direction, cutting fluid feed passages (b) provided to rotate centers of the spindles, a common closed chamber (108) provided to rear parts of the spindles in communication with rear ends of the cutting fluid feed passages for delivering supplied atomized lubricant fluid (Abstract) from the common closed chamber through the rear ends of the cutting fluid feed passages to the tips of the tools. WO 99/37439 shows the cutting fluid feed passages (b) can have an inner supply tube (25) retained in a non-rotating state even when the main spindle (111) is rotated (Abstract). WO99/37439 lacks an opening degree changing means for changing degrees of openings at the rear ends of the cutting fluid feed passages.

Inoue '212 shows in Figure 4 an opening degree-changing means (41) provided with inserted members (43) each having a tapered part (43a) for changing degrees of openings (42) at the rear ends of the cutting fluid feed passages (col. 7, lines 27-41) attached to an outer portion of the container (2) and adjusted from an outside position. In view of this teaching of Inoue '212, it would have been obvious to one of ordinary skill in the art to modify the multi-shaft spindle head of WO 99/37439 to include a needle control valve taught by Inoue '212 to improve machining accuracy and productivity through regulated control flow of the atomized fluid through the cutting tool to the work piece (col. 1, lines 11-19)

Art Unit: 3722

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/37439 in view of JP 05162046.

JP 05162046 shows in Figure 3 an opening degree changing means provided with inserted members (5) each having a tapered part (needle point) for changing degrees of openings at the rear ends of the cutting fluid feed passages attached to an outer portion of the apparatus and adjusted from an outside position. In view of this teaching of JP 05162046, it would have been obvious to one of ordinary skill in the art to modify the multi-shaft spindle head of WO99/37439 to include a needle control valve taught by JP 05162046 to improve machining accuracy and productivity through regulated control flow of the atomized fluid to the cutting tool and work piece.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/37439 in view of Eckardt '843.

Eckardt '843 shows in Figures 3-5 and 8 an opening degree changing means (Fig. 8) provided with inserted members (34) each having a tapered part (needle point) for changing degrees of openings at the rear ends of the cutting fluid feed passages attached to an outer portion of the apparatus and adjusted from an outside position (at knurled section). In view of this teaching of JP 05162046, it would have been obvious to one of ordinary skill in the art to modify the multi-shaft spindle head of WO99/37439 to include a needle control valve taught by Eckardt '843 to improve machining accuracy and productivity through regulated control flow of the atomized fluid to the cutting tool and work piece.

### ***Conclusion***

9. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's

Art Unit: 3722

office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mr. Boyer D. Ashley, may be reached at 571-272-4502.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filling papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.



MWT  
Examiner  
11 April 2006



BOYER D. ASHLEY  
SUPERVISORY PATENT EXAMINER